

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

TMT SYSTEMS, INC.,

Plaintiff,

v.

MEDTRONIC, INC. AND
MEDTRONIC USA, INC,

Defendants.

Civil Action No. 6:20-cv-973-ADA

PUBLIC VERSION

**DEFENDANTS MEDTRONIC, INC.'S AND MEDTRONIC USA, INC.'S
OPENING CLAIM CONSTRUCTION BRIEF**

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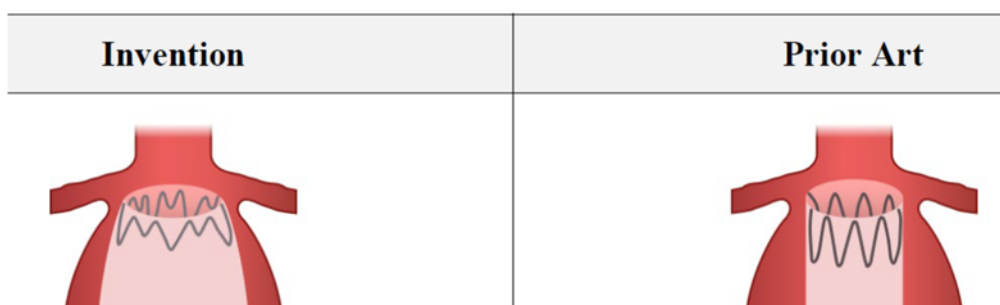
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I. INTRODUCTION

TMT Systems, Inc.’s (“TMT’s”) proposed claim constructions find no support in the patent’s teachings or the understanding of a person of ordinary skill in the art. Instead, they are result-oriented, after-the-fact positions designed to cause the Court to erroneously tailor the scope of the claims to capture the accused Endurant products, while avoiding the prior art. Indeed, TMT created the cartoon image below for its brief, egregiously calling its mock-up of the *accused Endurant product* the “Invention,” which it compares to unnamed “Prior Art.” Dkt. 42 at 3; *see also id.* at 2.¹



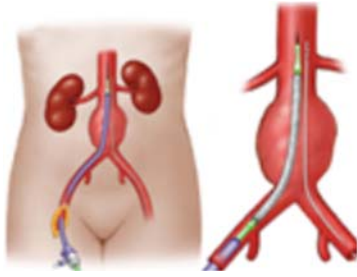
While wholly inappropriate in a *Markman* brief, TMT’s approach puts a fine point on the present dispute: TMT seeks to (1) *read into* its claims a very particular “M” design found nowhere in the ’393 patent (but which is a specific M-shape in Endurant) and (2) *read out* of its claims the alleged “invention” actually disclosed and claimed in the ’393 patent—a “telescoping arm.” The Court should reject TMT’s attempt to use claim construction to transform its patent into something it did not invent. Instead, the Court should construe the claims as the Federal Circuit requires—according to their plain meaning in light of the intrinsic evidence.²

II. TECHNOLOGY BACKGROUND AND THE ASSERTED INVENTION

A. Percutaneous Endovascular Stent Grafts

¹ The graphic on page 2 of TMT’s brief is from an uncited Medtronic publication that appeared in TMT’s complaint. Dkt. 37 at 21.

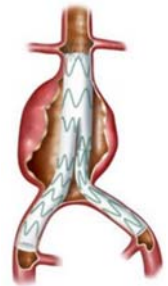
² By filing this brief, Medtronic, Inc. and Medtronic USA, Inc. do not waive their objection to proceeding in this venue nor their pending motions under Rule 12(b)(6).

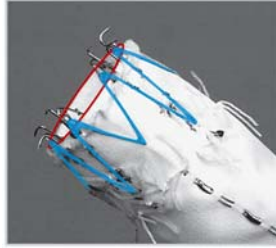


The aorta is the largest artery in the human body. Abdominal aortic aneurysms (“AAA”) are a common type of deteriorating disease caused by weakening of the wall of the aorta in the abdomen. *See* Dkt. 21-2 (hereinafter, “’393 patent”), 1:15-21.

The weakened wall, under the pressure of flowing blood, balloons outward similar to a water balloon. *See id.* Such a deformity in the wall of a blood vessel affects its ability to conduct blood. *See id.* It can be deadly if it ruptures. *Id.*, 1:22-24; Declaration of Elliot Chaikof (“Chaikof Decl.”) ¶ 27-28.

For decades, “percutaneous endovascular stent grafts” have been used to treat AAA. They generally consist of metal scaffolding “stent” rings that are sewn into a pliable fabric “graft.” Chaikof Decl. ¶ 28, 73. “Percutaneous endovascular” stent grafts are placed using a minimally invasive technique in which the stent graft is delivered in a collapsed state with a catheter. ’393 patent, 1:43-48. Once placed at the site of the aneurysm, the stent rings expand radially outward and secure the graft to the wall of the aorta. Chaikof Decl. ¶ 28, 75. The graft fabric then acts as a replacement for the section of the aorta affected by the aneurysm. *Id.* Medtronic AVE, a Medtronic, Inc. subsidiary, was a pioneer in developing endovascular stent grafts for treating AAA. For example, Medtronic AVE’s AneuRx stent graft was approved for use in 1999, and its Talent stent graft was under clinical investigation by 2000. Chaikof Decl. ¶ 70, 73. Both these and other endovascular stent grafts available in the prior art were circular, as shown below, and their stents were made of a metal wire or wires that extended around the circumference of the graft. Chaikof Decl. ¶ 70-75; Declaration of Gregory H. Lantier (“Lantier Decl.”), Ex. 1, Criado 2000 at 129-33.





Lantier Decl., Ex. 1, Criado 2000 at 129 (excerpted image showing circular shape in red and stent in blue).



(a) Talent Stent Graft



(b) Zenith Stent Graft



(c) Ancure Stent Graft

Lantier Decl., Ex. 1, Criado 2000 at 129-31 (showing stents in blue).

B. The '393 Patent

The application for U.S. Patent No. 7,101,393 (“the ‘393 patent”), which is titled “Percutaneous Endovascular Apparatus for Repair of Aneurysms and Arterial Blockages,” was filed on July 22, 2003 against this already crowded field of prior art. *See* ‘393 patent. The sole named inventor of the ‘393 patent is Dr. Timur Sarac, who is also the sole proprietor of plaintiff TMT. Dkt. 37 at 1-2.

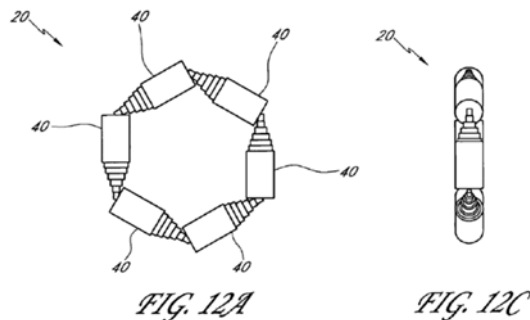
The ‘393 patent’s written description uses the phrase “endovascular graft” to refer to the entire stent graft and the phrase “expandable attachment device” or “expandable ring” to refer to the stent. *See, e.g.*, ‘393 patent, 1:48-51; 1:66-2:2. Universally in the patent, the “attachment device” is created by connecting a plurality of “telescoping arms that are joined together to form an expandable ring” that “may function similarly to stents.” *Id.*, 1:66-2:2. The patent describes

its alleged invention as follows:

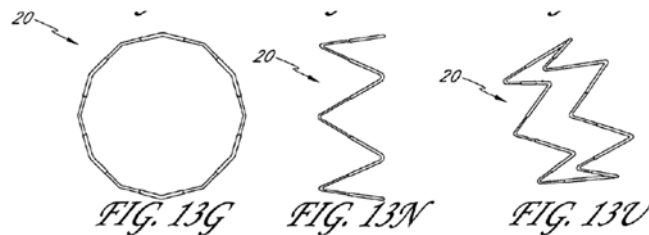
The expandable attachment device comprises a plurality of telescoping arms that are attached to form an expandable ring. Each telescoping arm is similar to an expandable presentation pointer. Alternatively, each telescoping arm may function like an accordion.

Id., 2:36-41. The patent describes different ways to position the plurality of “telescoping arms”:

As one of ordinary skill might appreciate, the attachment device may take variety of shapes depending upon the configuration of the telescoping arms 40 and the fixation components 36. For example, referring to FIGS. 12A D, the telescoping arms 40 may be positioned in a single plane.



Alternatively, referring to FIGS. 13A U, the telescoping arms 40 may be positioned in multiple planes in, for example, what is referred to herein as an “M configuration.”

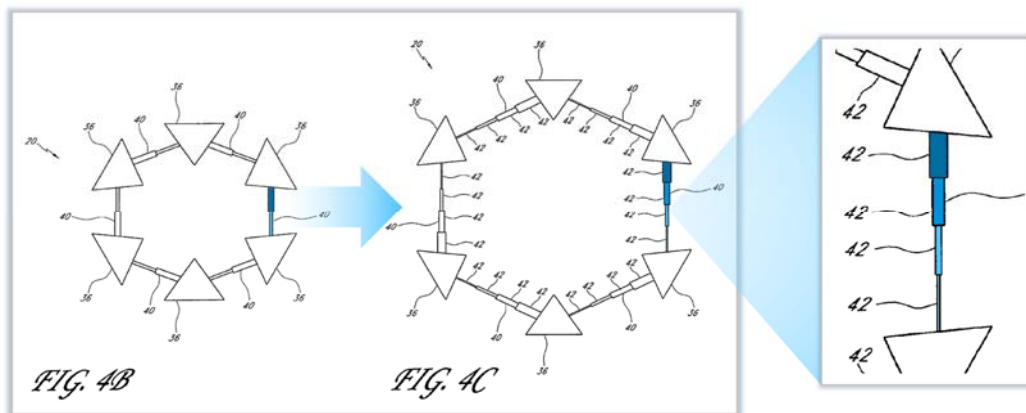


Id., 5:31-38, Figs. 12A-12C, 13G, 13N, 13U. There is no disclosure anywhere in the ’393 patent of a circular stent consisting of a single wire.

1. “Telescoping” Arm

Every embodiment in the ’393 patent depicts telescoping arms that each “telescope.” ’393 patent, 5:16-21. The patent likens the preferred embodiment of telescoping arms to a “presentation pointer.” *Id.*, 2:38-39. The written description explains that these segments are incrementally sized and are in slidable contact with each other. *Id.*, 5:17-19. “For example, each

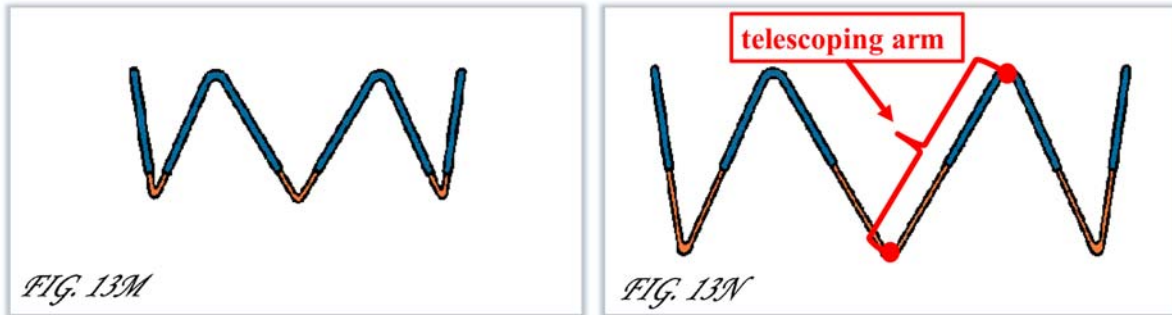
telescoping arm 40 may be constructed from what is referred to generally as ‘nested tubes,’” as depicted in Figures 4B and 4C in the patent reproduced and annotated below. *Id.*, 5:19-21; 6:65-67.



Id., Figs. 4B, 4C (color annotations added). Although every *figure* in the patent depicting “telescoping arms” shows the “presentation pointer” embodiment (*see id.*, Fig. 4B, 4C, 7, 8, 9, 12A-D, 13, 14, 15, 16, 17), the patent includes a single sentence in the Summary that references an alternative to the “presentation pointer” preferred embodiment in which “*each* telescoping arm may function like an accordion.” *Id.*, 2:39-40 (emphasis added). There is no figure in the patent that is referred to as illustrating this embodiment.

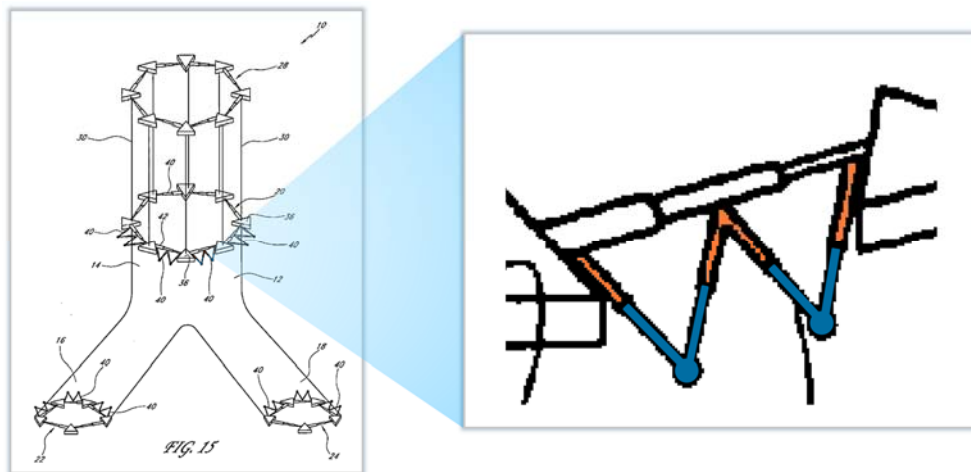
2. The Shape of a M

An “M” configuration of telescoping arms is rarely described and is depicted only twice in the ’393 patent: once in connection with Figure 13 and once in connection with Figure 15. Figure 13 of the ’393 patent depicts “attachment device 20” with “telescoping arms 40” in an “M configuration,” as shown below. ’393 patent, 5:36-38. Figure 13 illustrates the “telescoping arms” at “various states of expansion.” *Id.*, 3:38-40. As shown in the annotated figures, the arms have nested segments with different diameters—like a presentation pointer—that allow each arm to telescope.



Id., Figs. 13M, 13N (annotated, excerpted, and coloring added).

In connection with Figure 15 (reproduced below), the patent also describes “telescoping arms” in an “M configuration” (attached to a fifth telescoping arm) that can help hold the tubular sleeve 12 of the endovascular apparatus open. ’393 patent, 6:24-40. Like the “telescoping arms” depicted in the other figures of the patent, Figure 15’s telescoping arms have nested segments that slide into one another.



Id., Fig. 15 (coloring added).

3. The Asserted Claims

TMT asserts claims 1, 2, 4, 10, 11, and 26 (independent claims in bold underlining).

III. THE COURT SHOULD ADOPT MEDTRONIC’S PROPOSED CONSTRUCTIONS BECAUSE THEY ARE THE PLAIN MEANING OF THE CLAIM LANGUAGE AS SUPPORTED BY THE INTRINSIC EVIDENCE

A. Disputed term: whether the preamble is limiting (claims 1, 26)

Term	Medtronic's Construction	TMT's Construction
whether the preamble is limiting	preamble is not limiting	the preamble is limiting in its entirety

“Courts presume that the preamble does not limit the claims.” *Ancora Techs., Inc. v. LG Elecs. Inc.*, No. 1-20-CV-00034-ADA, 2020 WL 4825716, at *6 (W.D. Tex. Aug. 19, 2020). When “a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention,” the preamble is not limiting. *Id.* This presumption is only overcome when the preamble “recites essential structure or steps, or if it is ‘necessary to give life, meaning, and vitality’ to the claim.” *Id.* TMT’s arguments (*see* Dkt. 42 at 4-7) fail to overcome this presumption. *Ancora*, 2020 WL 4825716, at *6; *Baker Hughes Oilfield Operations, Inc. v. Prod. Tool Sol., Inc.*, No. 1-17-CV-291-LY, 2020 WL 1916691, at *17 (W.D. Tex. Apr. 17, 2020). The Court should find the preamble is not limiting.

B. Disputed term: “endovascular apparatus” (claims 1, 26)

Term	Medtronic's Construction	TMT's Construction
“endovascular apparatus”	preamble is not limiting	“endovascular graft for the treatment of aneurysms or arterial blockages”

This term appears only in the preamble and thus does not require construction. *Ancora*, 2020 WL 4825716, at *8. But even if this term were subject to construction, TMT’s construction improperly narrows the scope of the term beyond its plain and ordinary meaning and should be rejected. The claim phrase is “endovascular apparatus.” TMT’s proposed construction itself includes the word “endovascular,” and thus does nothing to assist the jury with understanding that word. The jury will have no difficulty understanding the other word in this claim term—“apparatus.” The Court should reject TMT’s attempt to import numerous limitations from the written description to improperly narrow the scope of that term. TMT’s choice to claim an “apparatus,” not a “graft,” illustrates that had it wanted to claim a “graft” (’393 patent, 1:43) instead, it certainly knew how to do so. Thus, to the extent this term is even

limiting, it should be given its plain meaning, not rewritten as TMT proposes.

C. Disputed terms: “telescoping arm” (claims 1, 26) & “telescoping arms” (claims 1, 26)

Term	Medtronic’s Construction	TMT’s Construction
“telescoping arm”	“plain and ordinary meaning, which is an arm that telescopes, such as in the manner of a presentation pointer or an accordion”	“plain and ordinary meaning, which is one of the telescoping arms”
“telescoping arms”	“plain and ordinary meaning, which is more than one telescoping arm”	“arms that telescope in the manner of a presentation pointer and/or an accordion”

Telescoping arms are the centerpiece of what the ’393 patent presents as its invention. As explained above, the ’393 patent’s figures only depict telescoping arms configured as a presentation pointer (e.g., with nested tubes). That embodiment is likewise repeatedly described in the patent’s written description. *See, e.g.*, ’393 patent, 5:12-21, 5:36-46, 5:47-67, 6:38-40. A single sentence in the Summary describes an alternative to this presentation-pointer style telescoping arm where “*each* telescoping arm may function like an accordion.”³ *Id.*, 2:39-40 (emphasis added). Medtronic agrees that the claims of the ’393 patent are broad enough to cover this “accordion” embodiment. But, as the patent states, “*each* telescoping arm may function like an accordion”; if an arm does not telescope (either like a presentation pointer, an accordion, or in some other way), then it is not a “telescoping arm.”

TMT seeks through claim construction to read “telescoping arm” out of the claims entirely. Under TMT’s proposed construction, no telescoping arm is required. Instead, the claims can be met by a set of arms—none of which telescopes—if the set of arms expands outward from a compressed to an expanded state, just as the wire stents in all of the prior art to the ’393 patent did. The Court should reject TMT’s faulty construction and adopt Medtronic’s.

³ This statement, as well as Figure 13 and its corresponding description, do not appear in the provisional patent application to which the ’393 patent claims priority. *See* Dkt. 42-4.

See Phillips v. AWH Corp., 415 F.3d 1303, 1312-19 (Fed. Cir. 2005).

First, the starting point for claim construction asks what the plain and ordinary meaning of a term is to a skilled artisan as of the patent's effective filing date. *Phillips*, 415 F.3d at 1312-13. As the Court has already recognized, "telescoping" has a plain meaning that the Court and jury can understand. *See* Dkt. 34 at 9:6-7. And importantly, there was no specialized meaning of "telescoping" in the art when the patent was filed. Chaikof Decl. ¶ 77.

Second, because there was no specialized meaning of "telescoping" in the art, the Court must look to the '393 patent's written description—the "single best guide to the meaning of a disputed term," *Phillips*, 415 F.3d at 1315—to understand the proper meaning of "telescoping arm." In this respect, the '393 patent's written description is clear that **each** arm must telescope:

The expandable attachment device comprises a plurality of telescoping arms that are attached to form an expandable ring. **Each** telescoping arm is similar to an expandable presentation pointer. Alternatively, **each** telescoping arm may function like an accordion.

'393 patent, 2:38-40.

TMT's proposed construction contradicts the written description's statement that "each" arm telescopes. Indeed, the deposition testimony of TMT's principal and sole named inventor, Dr. Sarac, confirms that TMT's proposed construction is designed to further a reading of the claims that directly conflicts with the words of the written description:

Q. [A]s you sit here today, your testimony is that when you refer to telescoping, it's the entirety of the stent that is telescoping. Correct?

A. It's the potential **entirety of the stent that is telescoping**, that would be correct. . . .

Q. Okay. But each individual arm does not need to function like an accordion.

A. That is –

Q. Correct?

A. That - that would be correct. **Each individual arm does not need to function like an accordion.**

Lantier Decl. Ex. 2, Sarac Depo. Tr. at 193:16-195:13; *contra* '393 patent, 2:38-40.

Dr. Sarac’s purported understanding and TMT’s proposed construction—that no individual arm need telescope—would render the ’393 patent’s written description nonsensical. The ’393 patent expressly distinguishes “M springs” in Figure 9 (straight arms that collectively expand like an accordion) from “telescoping arms” in Figure 15. An image of relevant portions of the different figures is below.



(a) Figure 9: “M spring”



(b) Figure 15: “Telescoping arms in an ‘M configuration’”

The “M springs” shown in Figure 9 would satisfy TMT’s proposed construction of “telescoping arms,” as they have arms that individually lack any telescoping functionality (each is just a piece of wire), but, under TMT’s interpretation, they would collectively expand like an accordion. Yet the “M springs” of Figure 9 are *never* described as “telescoping arms.” They are described as an *alternative* to the “telescoping arms” depicted in Figure 15: “the M springs 68 [of Figure 9] may be *replaced* by telescoping arms 40 [of Figure 15] in an “M configuration.” ’393 patent, 6:37-39. TMT’s proposed construction would equate the M springs of Figure 9 with the telescoping arms of Figure 15, even though the ’393 patent expressly distinguishes them from one another, rendering a clear distinction drawn in the ’393 patent meaningless.

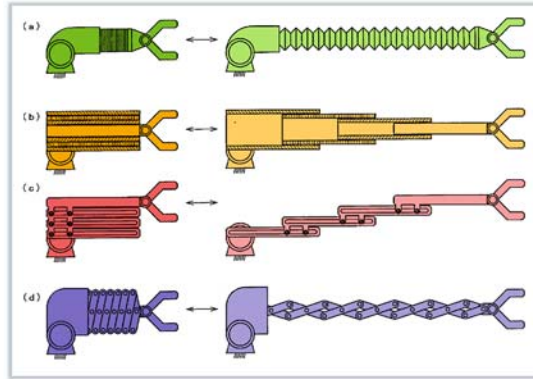
Third, the prosecution history confirms that Medtronic’s proposed construction is correct. *Phillips*, 415 F.3d at 1317. The Patent Office has consistently interpreted “telescoping arms” to require that *each* arm telescope. Chaikof Decl. ¶ 84; *see also* Lantier Decl., Ex. 3, CIP

Application at 93-94; Ex. 4, Lazarus at Fig. 7, 10:33-41; Ex. 5, Yadav at Fig. 1, Fig. 2, 3:7-19.

Finally, extrinsic evidence consistent with the intrinsic evidence supports Medtronic's proposed construction. *Phillips*, 415 F.3d at 1317. Dictionaries define "telescoping" to mean: "1. To cause to slide inward or outward in overlapping sections, as the cylindrical sections of a small hand telescope do; [or] 2. To make more compact or concise; condense." Lantier Decl., Ex. 6, Am. Heritage.⁴ The extrinsic evidence shows "arms" that telescope like an accordion, i.e., they condense typically by having collapsing bellows. *See, e.g.*, Lantier Decl., Ex. 8, Sneider; Ex. 9, Eastman. Moreover, the absence of any extrinsic evidence describing the radial compression and expansion of circular stent grafts as "telescoping," despite copious published literature about expanding endovascular stents by the filing of the '393 patent, confirms that TMT's construction is wrong. Chaikof Decl. ¶ 85-87.

TMT's arguments against Medtronic's proposed construction are without merit for two reasons. First, Medtronic's proposed construction is not overly broad. The patentee has not limited the "telescoping" functionality in its patent to just the presentation pointer and accordion embodiments. *See Cont'l Circ. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019). There are multiple other ways a single arm may telescope. The figure below, for example, includes four different ways an arm can telescope, including (but not limited to) like an "accordion" (image (a)) or a "presentation pointer" (image (b)).

⁴ *See also* Lantier Decl., Ex. 7, Funk & Wagnalls ("1. To drive or slide together so that one part fits into another in the manner of the sections of a small telescope. 2 To crush by driving something into or upon. 3 To represent in a compressed or shortened form, as a period of time. - *v.i.* 4 To crash or be forced into one another, as railroad cars in a collision.").



Second, Medtronic’s proposed constructions do not violate claim differentiation principles or render claim 3 superfluous, as TMT contends. Dkt. 42 at 12-13. The doctrine of claim differentiation counsels against importing a limitation from a dependent claim into the independent claim from which it depends, such that the independent and dependent claim become coextensive. *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1242 (Fed. Cir. 2003); *see also Phillips*, 415 F.3d at 1314-15. Dependent claim 3 does not recite a requirement that individual arms telescope—it requires that “the telescoping arms are configured so that an increase in the perimeter of variable length results in an increase in a height of the device.” ’393 patent, claim 3. In other words, claim 3 requires that when the stent expands outwards, it also increases in height. TMT improperly assumes that a plurality of individual arms that telescope (as the claims require) *always* results in an increase in a height of the stent. Dkt. 42 at 13. That is simply wrong: whether a circular stent with telescoping arms increases in height does not depend only on whether the individual arms telescope (because other factors, like the amount of telescoping, how much the arms rotate, and the direction of the rotation also come to bear on whether the height changes). Chaikof Decl. ¶ 88. Thus, claim differentiation does not support (much less compel) TMT’s proposed construction.

D. Disputed term: “perimeter of variable length” (claim 1)

Term	Medtronic’s Construction	TMT’s Construction
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“perimeter of variable length”	“boundary that has a varying length as each arm telescopes”	no construction required; plain and ordinary meaning
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Medtronic’s proposed construction is consistent with the plain and ordinary meaning of the terms and is being offered to help the jury understand what this term means in the context of the stents described in the claims. *CollegeNET, Inc. v. MarketLinx, Inc.*, No. A-09-CA-544-SS, 2010 WL 11566364, at *7 n.9 (W.D. Tex. Sept. 14, 2010) (quoting *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010)) (“The Court notes ‘[t]he terms, as construed by the court, must ensure that the jury fully understands the court’s claim construction rulings and what the patentee covered by the claims.’”). The term “perimeter of variable length” does not appear in the written description. When the word perimeter does appear in the written description, it is used to describe the total length of the boundary of the attachment device that is defined by the variable length of each telescoping arm. *See, e.g.*, ’393 patent at Figs. 4A-4C. This is consistent with the plain meaning of perimeter. *See* Lantier Decl. Ex. 10, Dict. Science & Tech. (defining “perimeter” as “the boundary of a closed plane figure” or “the length of a closed curve bounding a plane figure”); Ex. 11, Dict. Science & Tech. Terms (defining “perimeter” as “[t]he total length of a closed curve; for example, the perimeter of a polygon is the total length of its sides”).

E. Disputed terms: “operatively connected” / “connected” (claims 1, 26) & “the arms being operatively connected to one another so as to form a perimeter of variable length” (claim 1)

Term	Medtronic’s Construction	TMT’s Construction
“operatively connected” / “connected”	“distinct structures functionally connected”	<p><u>“connected”</u>: no construction required; plain and ordinary meaning</p> <p><u>“operatively connected”</u>: “the arms being connected to one another to form a perimeter of variable length capable of reducing leakage around the perimeter of the tubular sleeve”</p>
“the arms being	“the arms being distinct	“the arms being connected to one another

operatively connected to one another so as to form a perimeter of variable length”	structures functionally connected to one another so as to form a boundary that has a varying length as each arm telescopes”	to form a perimeter of variable length capable of reducing leakage around the perimeter of the tubular sleeve”
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Medtronic’s constructions are substantially similar to the terms in Section IV.F, and Section IV.F is incorporated by reference.

F. Disputed term: “operatively coupled” / “coupled” (claims 1, 26) & “the telescoping arms are operatively coupled to one another at an angle so that multiple telescoping arms form the shape of a M” (claim 1)

Term	Medtronic’s Construction	TMT’s Construction
“operatively coupled” / “coupled”	“distinct structures functionally coupled”	<p><u>“coupled”</u>: no construction required; plain and ordinary meaning</p> <p><u>“operatively coupled”</u>: “the telescoping arms are positioned in multiple planes at an angle so that multiple telescoping arms form the shape of a M capable of exerting enough radial force when expanded to fix into the aorta and thereby reduce blood leaks around the endovascular graft”</p>
“the telescoping arms are operatively coupled to one another at an angle so that multiple telescoping arms form the shape of a M”	“the telescoping arms are distinct structures functionally coupled to one another at an angle so that multiple telescoping arms form the shape of a M”	“the telescoping arms are positioned in multiple planes at an angle so that multiple telescoping arms form the shape of a M capable of exerting enough radial force when expanded to fix into the aorta and thereby reduce blood leaks around the endovascular graft”

The terms “operatively connected” and “connected” are used synonymously in claims 1 and 26. So too are the terms “operatively coupled” and “coupled.” Therefore, these sets of terms should be consistently construed.

Medtronic’s proposed constructions are consistent with the plain meaning of connected and coupled. Ex. 10, Dict. Science & Tech. (defining “connection” as “the act of joining together” and “couple” as “to connect parts or vehicles at their ending points with a coupling device” or “a system of two equal but opposite forces that are applied at different locations,

producing a torque”). The proposed constructions are also consistent with the intrinsic record, as each embodiment in the patent depicts telescoping arms that are functionally connected and coupled to one another. *See, e.g.*, ’393 patent, 5:12- 25, 5:36-41, Figs. 4A-4C, Fig. 13.

TMT’s proposed constructions, on the other hand, improperly rewrite the claims by introducing numerous functional limitations into structural claim elements. TMT includes additional unclaimed features, such as “capable of reducing leakage around the perimeter of the tubular sleeve” and “positioned in multiple planes at an angle . . . capable of exerting enough radial force when expanded to fix into the aorta and thereby reduce blood leaks around the endovascular graft.” Dkt. 42 at 14, 17. TMT’s blatant attempt to import functional and intended purpose limitations into the claims should be rejected. *See, e.g., Arthrex, Inc. v. Smith & Nephew, Inc.*, 935 F.3d 1319, 1330 (Fed. Cir. 2019) (affirming that a claim term should not be construed to include functional features from a preferred embodiment); *Woods v. DeAngelo Marine Exhaust, Inc.*, 692 F.3d 1272, 1284 (Fed. Cir. 2012) (affirming construction that did not include function for the claimed “elongated outer shell” where the structure was not defined as performing that function in the written description).

Indeed, nothing in the intrinsic records specifies that reducing leakage is a requirement of the purported invention—and certainly not of the claimed “operatively connected” limitation. Nor does the intrinsic record specify that “operatively coupled” only means positioning the telescoping arms in multiple planes such that the arms are capable of exerting enough radial force to reduce leakage. The Court should reject this attempt to alter the claims through claim construction and adopt Medtronic’s proposed constructions, which are faithful to the claims’ plain meaning and the intrinsic record.

G. Disputed term: “shape of a M” / “shape of multiple Ms” / “M configuration” (claims 1, 2, 26)

Term	Medtronic's Construction	TMT's Construction
"shape of a M" / "shape of multiple Ms" / "M configuration"	"plain and ordinary meaning"	no construction required; plain and ordinary meaning ("The shape of an M consists of four arms where the pair of inner arms and the pair of outer arms differ in length." Dkt. 42 at 19).

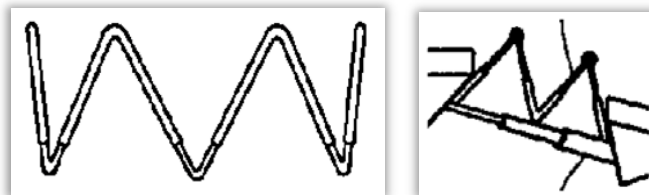
Both the Court and the jury know the plain and ordinary meaning of these claim terms: an M is a very familiar shape, which even Dr. Sarac admits had no specialized meaning in the art when the patent was filed. But in a flagrant attempt to construe the claims to capture the accused product—while attempting to avoid the crowded field of prior art—TMT now asserts that the *only* M's that fall within the scope of the asserted claims are those in which the pair of inner arms of the M are a different length than the pair of outer arms.⁵ Dkt. 42 at 19-20. Because the parties clearly have a dispute regarding claim scope, the Court should determine the scope of the claims as part of the *Markman* process. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).

Applying the *Phillips* analysis to these claim terms demonstrates that Medtronic's construction is correct. *See Phillips*, 415 F.3d at 1312-19. **First**, the plain and ordinary meaning of "shape of a M," "shape of multiple Ms," and "M configuration" is an "M." There is nothing in the plain language of the term "M" that would limit it to only particular Ms, let alone only to Ms in which the inner arms are of a different length than the outer arms. Indeed, ***Dr. Sarac admitted that persons of skill in the art when his patent was filed would not have understood an "M" to refer only to an M in which the inner arms are of a different length than the outer arms.*** Lantier Decl. Ex. 2, Sarac Depo. Tr. at 173:2-174:11 ("Q And therefore, according to you, [others in the field] would not have had an understanding of an M stent as being a stent in which

⁵ If TMT's construction is adopted, the claims are invalid for lack of written description, as explained in Medtronic, Inc.'s and Medtronic, USA, Inc.'s pending contingent motions to dismiss. *See* Dkts. 49, 51.

the middle legs are shorter than the outer legs. Correct? A That is my understanding, yes, it is correct.”). Medtronic’s expert agrees—“M” was **not** a term of art as of the patent’s filing and thus had no particular or specialized meaning to a skilled artisan. Chaikof Decl. ¶ 91. That fact is confirmed by TMT’s failure to point to **any** evidence that the “plain meaning” of “M” to a skilled artisan was limited to an M with inner arms of a different length than the outer arms. That failure is unsurprising. As Dr. Sarac himself acknowledged, he was unaware of a single publication that existed prior to 2003 that referred to an “M stent or a stent that’s in an M configuration” as TMT now seeks to limit that term. Lantier Decl. Ex. 2, Sarac Depo. Tr. at 173:2-6. Thus, there is no basis for limiting the “plain and ordinary meaning” of an “M” to Ms where the pair of inner arms are of a different length than the pair of outer arms.

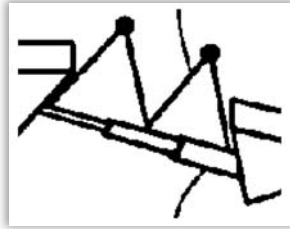
Second, the written description of the ’393 patent describes an “M” shape by referring to figures in which the arms of the “M” are of **equal length**, not differing lengths. The written description references telescoping arms in an “M configuration” in only two locations. *See* ’393 patent, 5:36-46, 6:37-40. Neither provides any written explanation on the specific shape of telescoping arms in an “M” configuration, let alone the length of the arms. *See id.* Instead, the written description refers to Figures 13 and 15 as depicting the “M” configuration. In both figures, the telescoping arms in an “M” configuration are of equal lengths. *See* ’393 patent at Figs. 13A-13U, 15.



Id., Figs. 13L, 15 (excerpted).

The written description also describes “M springs” that attach to the endovascular

apparatus. *Id.*, 6:22-37. Again, it does not explain the contours of an “M spring.” *Id.* Instead, it refers to Figure 9, which shows the “M springs” as having arms of equal length.



Id. at Fig. 9 (excerpted). Thus, the written description does not limit the plain and ordinary meaning of “M” to Ms with inner and outer arms of different lengths.

Third, the prosecution history of the ’393 patent confirms that the “M” shape limitations encompass Ms in which all arms are of equal length. In the amendment adding the “M shape” limitations, TMT described the “shape of a M” or “M configuration” as “zigzags.” *See* Dkt. 42-5, Sept. 22, 2005 Response at 10 (“The figures and discussion disclose the M configuration where the telescoping arms ‘zigzag’ back and forth in forming the perimeter or appear as a series of Ms or Vs.”). “Zigzag” stents were known in the prior art and had *equal* length arms. Chaikof Decl. ¶ 94. More importantly, when it amended the then-pending claims to add the “M” limitations, TMT said nothing about an “M” requiring different length arms or having any particular shape. *See* Dkt. 42-5, Sept. 22, 2005 Response at 12.

TMT argues the written description and prosecution history supports its position that an “M” must have shorter middle arms because they each distinguish “the shape of an M and the shape of a V.” Dkt. 42 at 19-20. This argument, however, misrepresents the patent and prosecution history. The ’393 patent discusses a “V” only once in the context of describing the “M springs” depicted in Figure 9 (which connect two points and are not circular), and never depicts a “V” embodiment in the figures. ’393 patent, 6:36-40 (“Of course, in place of the ‘M springs’ 68, springs in the shape of a ‘V’ may be used.”). But—more importantly—nothing in

the '393 patent indicates that *telescoping arms* in an “M” shape differs from telescoping arms in a “V” shape or requires inner and outer arms of different lengths, as discussed above. Moreover, the prosecution section discussed above and cited by TMT does not distinguish an M and V. *See* Dkt. 42-5, Sept. 22, 2005 Response at 10. To the contrary, during prosecution, the applicant equated telescoping arms in an “M” shape with those in a “V” shape. *Id.* Thus, a skilled artisan would not have recognized there was a difference between “Ms” and “Vs” requiring an “M” to have inner arms of a different length than the outer arms. Chaikof Decl. ¶ 95. Indeed, the patent office and PTAB have rejected this exact argument. Lantier Decl. Ex. 3 CIP Application at 94, 130-32. Accordingly, nothing in the '393 patent or its prosecution history suggests that an “M” shape and a “V” shape are different because of the relative lengths of their arms.

Fourth, the prosecution histories of applications claiming priority to the '393 patent demonstrate that TMT's proposed narrowing construction is wrong. TMT has repeatedly sought claims that require a stent in an “M shape” with inner arms of a different length in applications claiming priority to the '393 patent. Each time, the claims were rejected for lack of written description. Chaikof Decl. ¶ 97-98. For example, TMT sought a claim where inner arms of an “M-stent” were shorter than the outer arms. Lantier Decl. Ex. 3, CIP Application at 76. This claim was rejected by the Examiner for lack of written description. *Id.* at 88, 94. In the rejection, the Examiner stated: “There is no clear original support for an M stent with shorter middle struts Rather, the new language apparently contradicts the original disclosure of Figures 13H to 13U that show equal length legs and equal angles between legs.” *Id.* at 88.

TMT appealed this rejection, and it was upheld by the Patent Trial and Appeal Board (“PTAB”). *Id.* at 130-132. The PTAB specifically stated: “We agree with the Examiner that Appellant has not provided sufficient evidence to persuade us that mere reference to an ‘M’

would be recognized by one of ordinary skill in the art as necessarily providing shorter middle struts or different angles between legs.” *Id.* at 132. Similar rejections were made each time TMT sought claims directed to an “M stent” requiring inner arms of a different length than the outer arms. Chaikof Decl. ¶¶ 97-98; *see also, e.g.*, Lantier Decl. Ex. 3, CIP Application at 271 (“The claims have been amended to define the M-springs as comprising inner and outer pairs of legs with different lengths. However, a review of the specification does not produce any clear disclosure of this configuration.”). Although TMT ultimately removed the limitations directed at an “M shape” with inner arms of a different length than the outer arms (Lantier Decl. Ex. 3, CIP Application at 283)—thus conceding that it did not invent such a limitation—TMT nonetheless is attempting to improperly import that limitation into the claims through claim construction.

Fifth and finally, the extrinsic evidence is consistent with Medtronic’s proposed construction and contradicts TMT’s. A drafting textbook that existed for nearly a century when the ’393 patent was filed illustrates multiple accepted “M” shapes, including those with four arms of the same length. Lantier Decl. Ex. 12, Drafting Textbook at 8-9. Further, a multitude of typefaces that existed prior to the filing of the ’393 patent also shows that an M can have four arms of the same length. Lantier Decl. Ex. 13 (thirteen different fonts showing Ms with four arms of the same length). None of this evidence shows that an “M” requires inner arms of a different length than the outer arms. Chaikof Decl. ¶¶ 99.

In sum, TMT is again trying to turn the claims into something they are not—this time in a transparent effort to avoid the crowded field of prior art. TMT’s attempt to distort its own patent should be rejected, and Medtronic’s proposed construction should be adopted.

IV. CONCLUSION

Medtronic respectfully requests that the Court adopt its constructions and reject TMT’s result-driven attempt to construe the claims in view of the accused products.

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Respectfully submitted,

/s/ J. Stephen Ravel

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served with a copy of the foregoing document via electronic mail on May 24, 2021.

/s/ J. Stephen Ravel

J. Stephen Ravel